

Resolution Adopting a Bicycle Facilities Plan for the Town of West Hartford

WHEREAS the Town of West Hartford ("Town") adopted a Complete Streets Policy ("Policy") on July 21, 2015 to ensure that its transportation network is designed, constructed and maintained for users of all ages, abilities and modes of transportation; and

WHEREAS said Policy directed Town staff, in consultation with the Bicycle Advisory Committee, to develop a Bicycle Facilities Plan ("Plan") to address the need for defined bicycle routes within and through Town; and

WHEREAS the attached, comprehensive Plan includes a vision, design considerations, an implementation approach and a network map that identifies intended bicycle facilities that will achieve the stated goals of the Complete Streets Policy.

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF WEST HARTFORD THAT the attached Bicycle Facilities Plan is adopted and shall be applicable in accordance with the provisions of the Town's Complete Streets Policy.

(Van Winkle)
05/10/16

DRAFT

Submitted for Town Council Approval 5.10.16

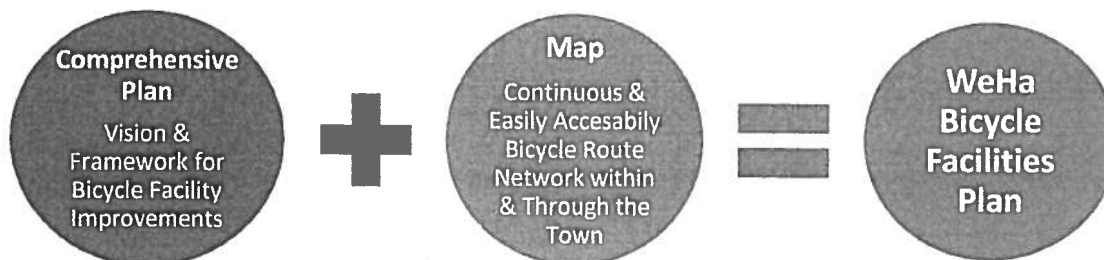
Town of West Hartford

bicycle facilities plan



May 2016

West Hartford Bicycle Facilities Plan



Vision

To provide a seamless network of on and off-street bicycle routes linking destinations such as schools, parks, shopping and public transportation from one end of West Hartford to the other in an accessible and comfortable manner for people of all ages and abilities

Policy Context

The West Hartford Bicycle Facilities Plan is the result of local policy (Complete Streets) that is supported by many local plans that promote bicycling.

2007 West Hartford Master Bike Plan

"The goal of the Plan is to make recommendations about an accessible and convenient network of improvements such as bike paths, bike routes, bike lanes and secure bike racks, to suggest ways to educate, encourage and enforce safe cycling, and finally, to provide a framework for evaluating this Plan."

2009 Plan of Conservation and Development

Goal - "Promote an integrated and balanced "complete street" transportation system which provides the best possible service, mobility, convenience, and safety while reinforcing a positive social, economic, and environmental influence on West Hartford."

Traffic & Transportation Policies

"Utilize the existing neighborhood street grid to establish dedicated walking and bicycle networks from neighborhoods to commercial and municipal destinations."

- Establish and identify, with signage or other highly visible markings, "best routes" for bicyclists and pedestrians.
- Work with employees and various Town departments to provide recommended bicycle parking at destinations.

- Work to design and implement a safe bike commuter route to downtown Hartford.

“Support transportation improvements that protect the character and safety of the residential neighborhoods through prudent use of traffic calming techniques and promoting a “complete street” network.”

- Implement with input from affected residential neighborhoods traffic calming techniques to reduce speed, discourage commercial and cutthrough traffic, and promote walking and bicycling in residential neighborhoods.

“Support programs that provide and encourage alternate transportation modes on a Town-wide basis.”

- Complete the Trout Brook bike path and other bike paths using the existing street grid with the input of the Bicycle Task Force. Develop connections to existing and planned regional greenways and multi-use trails.

2015 Complete Streets Resolution

Vision—“Complete Streets are necessary to promote an integrated and balanced transportation network. Complete Streets strive to provide the best possible blend of service, mobility, and convenience, and safety while reinforcing a positive social, economic, and environmental influence on West Hartford.”

Reference to Bicycle Facilities Plan in the Complete Streets Policy: “An important aspect of this Complete Streets policy is to ensure that West Hartford bicycle riders feel safe traveling within and through the Town. The Town currently lacks defined bicycle routes for convenient and easily accessible transportation through and around the Town. To address this, the Town Staff, in consultation with the Town’s Bicycle Advisory Committee, shall develop a Bicycle Facility Plan. Such Plan shall be presented to the Council for adoption no later than nine (9) months from the adoption of this Complete Streets Policy, and shall be reviewed and/or updated every three years.”

Creating the Bicycle Network

The Community Services Department formed a working group to assess and analyze the opportunities for a comprehensive bicycle network within and through the Town. The group coordinated several meetings with the Bicycle Advisory Committee (BAC), conducted field visits and met with city officials from New Haven and New Britain. Next, literature based research was conducted which focused on best practices, design standards and bicycle plans from peer communities (local and national), including:

- American Association of State Highway and Transportation Officials (AASHTO)
 - A Policy on Geometric Design of Highways and Streets (6th Edition, 2011)
 - Guide for the Development of Bicycle Facilities (4th edition, 2012)
 - Guide for the Planning, Design and Operations of Pedestrian Facilities (2004)
- American Planning Association (APA)
 - Complete Streets: Best Policy and Implementation Practices (2012)
 - U.S. Traffic Calming Manual (2009)

- Federal Highway Administration (FHWA)
 - Manual of Uniform Traffic Control Devices (MUTCD)
- National Association of City Transportation Officials (NACTO)
 - Urban Bikeway Design Guide (2nd edition, 2014)
 - Urban Street Design Guide (2013)
- City of Boston: *Boston Bike Network Plan* (2013)
- City of Cambridge, MA: *Cambridge Bicycle Plan: Toward a Bikeable Future* (2015)
- City of Seattle: *Seattle Bicycle Master Plan* (2014)
- City of San Francisco: *Bicycle Network Map* (2015)
- New York City: *NYC Bike Map* (2015)
- City of New Britain: *Bicycle Connectivity and Traffic Calming Study* (2013)
- City of New Haven: *Bike Route Map* (2015)
- Town of Fairfield: *Fairfield Bicycle & Pedestrian Master Plan* (2013)

This research resulted in the development of a Bicycle Network Map which seeks to provide a seamless network of on and off-street bicycle routes linking destinations such as schools, parks, shopping and public transportation from one end of West Hartford to the other in an accessible and comfortable manner for people of all ages and abilities.

An important part of the Bicycle Network Map and Plan development is public outreach. In an effort to solicit feedback on and further develop the map and Plan, the Town conducted the following public input and outreach efforts:

- Numerous Stakeholder Outreach Meetings and Collaboration
- Online Survey: 9 Question Survey posted on the Town's Website for 30 days received 301 participants.
- Online Comment and Feedback Tool: 169 comments were received via the Online Survey.
- 3 Meetings with the Bicycle Advisory Committee's Bicycle Facilities Plan Subcommittee
- 9 Meetings of the Bicycle Advisory Committee in which the Draft Bicycle Facilities Plan was an agenda item and discussed in detail.

Bicycle Network Map

The Bicycle Network Map is the result of a variety of analyses, assessments and public input and represents the community's vision to provide a seamless network of on and off-street bicycle routes linking destinations such as schools, parks, shopping and public transportation from one end of West Hartford to the other in an accessible and comfortable manner for people of all ages and abilities.

As of *(Insert Date of Adoption of the Plan Here)*, the Network includes:

Bicycle Route Type	Existing (miles)	Planned (miles)
Separated		
Shared		
Off-Street		

The Network Map is included in Appendix A.

Bicycle Network Street Inventory

An inventory of each street included in the Bicycle Network Map is included in Appendix B. The table includes the following information:

- Street Name
- Bicycle Network Route Classification
- Street Classification
- ADT (if available)
- Speed Limit
- Pavement Width
- Presence of Sidewalks
- Presence of On Street Parking
- Road Length

Bicycle Facilities Toolbox

The Bicycle Network discussed and depicted in Section 4, is comprised of three distinctive bicycle facility categories: Separated Routes, Shared Routes, and Off-Street Routes. Each route category contains numerous bicycle facility types. The definitions and guidance for all are derived from the National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide, Second Edition 2014, and American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities, Fourth Edition, 2012 and as may be amended.

Separated Routes

For purposes of this Plan, Separated Routes are the highest level of facility type. They include physical or visual separation and may be at sidewalk or street level, the benefits of which include clear separation between user groups (bicyclists, pedestrians and motorists). Where properly designed and implemented, this type of facility has been shown to increase ridership by making bicycling more appealing to a broader range of cyclists.

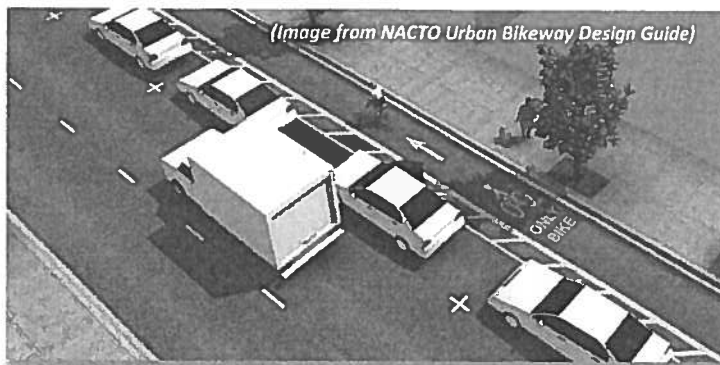
Separated Routes include the following bicycle facilities types:

Cycle Track

A cycle track is an exclusive bike facility that combines the user experience of a separated path with the on-street infrastructure of a conventional bike lane. A cycle track is physically separated from motor traffic and distinct from the sidewalk. Cycle tracks have different forms but all share common elements—they provide space that is intended to be exclusively or primarily used for bicycles, and are separated from motor vehicle travel lanes, parking lanes, and sidewalks. In situations where on-street parking is allowed cycle tracks are located to the curb-side of the parking (in contrast to bike lanes).

Cycle tracks may be one-way or two-way, and may be at street level, at sidewalk level, or at an intermediate level. If at sidewalk level, a curb or median separates them from motor traffic, while different pavement color/texture separates the cycle track from the sidewalk. If at street level, they can be separated from motor traffic by raised medians, on-street parking, or bollards. By separating cyclists from motor traffic, cycle tracks can offer a higher level of security than bike lanes and are attractive to a wider spectrum of the public.

(Adapted from the NACTO Urban Bikeway Design Guide and exact reference available at <http://nacto.org/publication/urban-bikeway-design-guide/cycle-tracks/>)



Buffered Bicycle Lanes

Buffered bicycle lanes are conventional bicycle lanes paired with a designated buffer space separating the bicycle lane from the adjacent motor vehicle travel lane and/or parking lane. A buffered bike lane is allowed as per MUTCD guidelines for buffered preferential lanes from motor traffic and distinct from the sidewalk.



Benefits of buffered bicycle lanes include providing greater distance between motor vehicles and bicyclists; reduced risk of “dooring”; greater maneuverability outside of the motor vehicle travel lane; and provides for more room for bicycling without creating the perception of an additional travel or parking lane. When properly designed, buffered bicycle lanes encourage bicycling by contributing to the perception of safety among users of the bicycle network.

(Adapted from the NACTO Urban Bikeway Design Guide and exact reference available at <http://nacto.org/publication/urban-bikeway-design-guide/bike-lanes/buffered-bike-lanes/>)

Bicycle Lanes

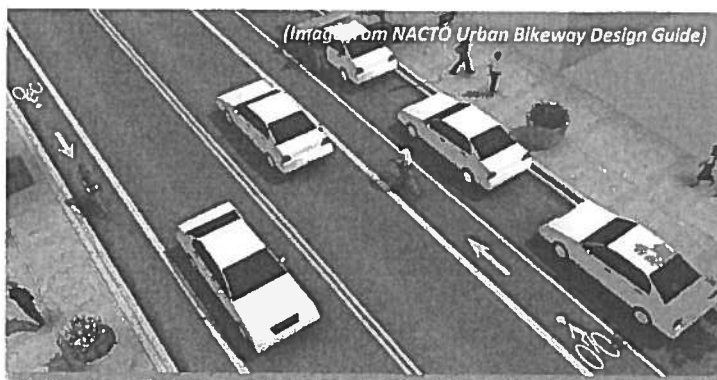
Bicycle lanes are designated portions of the roadway marked and signed for the exclusive use of bicyclists. A standard bicycle lane is located adjacent to motor vehicle travel lanes and flows in the same direction as motor vehicle traffic. Bicycle lanes are typically on the right side of the street,

between the adjacent travel lane and curb, road edge, or parking lane. This facility type may be located on the left side when installed on one-way streets.

Bike lanes enable bicyclists to ride at their preferred speed without interference from prevailing traffic conditions. Bike lanes also facilitate predictable behavior and movements between bicyclists and motorists. Bicyclists may leave the bike lane to pass other bicyclists, make left turns, avoid obstacles or debris, and avoid other conflicts with other users of the street.

Bike Lane is defined as a portion of the roadway that has been designated by striping, signage, and pavement markings for the preferential or exclusive use of bicy

(Adapted from the NACTO Urban Bikeway Design Guide and exact reference available at <http://nacto.org/publication/urban-bikeway-design-guide/bike-lanes/>)



Shared Routes

Although all roads, unless marked otherwise, are shared facilities and bicycles may operate on them, for purposes of this Plan, Shared Routes are a lower level bicycle facility type. They include a means of visual cues (markings and signage) to indicate the presence of a shared lanes environment for bicycles and automobiles. When and where properly designed and implemented, shared routes treatments reinforce the legitimacy of bicycle traffic on the street, recommend proper bicyclist positioning, and may be configured to offer directional and way finding guidance.

Shared Routes include the following bicycle facilities types:

Bicycle Boulevards

Bicycle boulevards are streets with low motorized traffic volumes and speeds, designated and designed to give bicycle travel priority. Bicycle boulevards use signs, pavement markings, and speed and volume management measures to discourage through trips by motor vehicles and create safe, convenient bicycle crossings of busy arterial streets.



(Adapted from the NACTO Urban Bikeway Design Guide and exact reference available at <http://nacto.org/publication/urban-bikeway-design-guide/bicycle-boulevards/>)

Sharrows

Sharrows are shared lane road markings used to indicate a shared lane environment for bicycles and automobiles. They reinforce the legitimacy of bicycle traffic on the street, recommend proper bicyclist positioning, and may be configured to offer directional and wayfinding guidance. The MUTCD outlines guidance for shared lane markings in section 9C.07.



(Adapted from the NACTO Urban Bikeway Design Guide and exact reference available at <http://nacto.org/publication/urban-bikeway-design-guide/bikeway-signing-marking/shared-lane-markings/>)

Signed Route

A signed bicycle route consists of comprehensive signing and/or pavement markings to guide bicyclists to their destinations along preferred bicycle routes. Signs are typically placed at decision points along bicycle routes – typically at the intersection of two or more bikeways and at other key locations leading to and along bicycle routes.

(Adapted from the NACTO Urban Bikeway Design Guide and exact reference available at <http://nacto.org/publication/urban-bikeway-design-guide/bikeway-signing-marking/bike-route-wayfinding-signage-and-markings-system/>)

Off-Street Routes

For purposes of this Plan, Off-Street Routes are any shared use path or trail permitting more than one type of non-motorized user. They serve as part of the bicycle network and support multiple recreational opportunities including walking and bicycling and serve as connection points between on street routes within the network. An off-street route is physically separated from motor vehicular traffic with an open space of barrier.

Lane Treatments, Signage, and Intersection Treatments,

Bicycle Lane & Signage Treatments

Bicycle signage and marking encompasses any treatment or piece of infrastructure whose primary purpose is either to indicate the presence of a bicycle facility or to distinguish that facility for bicyclists, motorists, and pedestrians. Bicycle signage includes several sub-categories, including way-finding and route signage, regulatory signage, and warning signage. Some bicycle specific signage exists to provide motorized traffic with information and instruction.

Bicycle lane markings represent any device applied to the pavement surface and intended to designate a specific right-of-way, direction, potential conflict area, or route option. These markings must take into consideration the use of particular colors, materials, and designs, as well as the legibility of these elements for motorists and pedestrians. Markings may be used to augment a particular lane, intersection, or signal treatment. In all cases, markings must strive for a high level of visibility, instant identification, and take into account both motorist and bicyclist movements in relation to the marking placement.

(Adapted from the NACTO Urban Bikeway Design Guide and exact reference available at <http://nacto.org/publication/urban-bikeway-design-guide/bikeway-signing-marking/>)

Intersection Treatments

Intersections with bicycle facilities should reduce conflict between bicyclists, pedestrians, her vulnerable road users) and vehicles by heightening the level of visibility, denoting a clear right-of-way, and facilitating eye contact and awareness with competing modes. Intersection treatments can resolve both queuing and merging maneuvers for bicyclists, and are often coordinated with timed or specialized signals.

The configuration of a safe intersection for bicyclists may include elements such as color, signage, medians, signal detection, and pavement markings. Intersection design should take into consideration existing and anticipated bicyclist, pedestrian and motorist movements. In all cases, the degree of mixing or separation between bicyclists and other modes is intended to reduce the risk of crashes and increase bicyclist comfort. The level of treatment required for bicyclists at an intersection will depend on the bicycle facility type used, whether bicycle facilities are intersecting, the adjacent street function and land use.

(Adapted from the NACTO Urban Bikeway Design Guide and exact reference available at <http://nacto.org/publication/urban-bikeway-design-guide/Intersection-treatments/>)

Design considerations

For all of the facility types, signage and lane and intersection treatments described above, the Town will follow accepted or adopted design standards and use the best and latest design standards available, including the following:

- National Association of City Transportation Officials (NACTO)
Urban Bikeway Design Guide (2nd edition, 2014)
- American Association of State Highway and Transportation Officials (AASHTO)
Guide for the Development of Bicycle Facilities (4th edition, 2012)
- Federal Highway Administration (FHWA)
Manual of Uniform Traffic Control Devices (MUTCD)

Implementation

In accordance with the Complete Streets Policy, this Plan will be implemented through the Town's Capital Improvement Program. The Town will plan, design, construct, operate and maintain the routes identified on the Bicycle Network Map by implementing single elements or facilities of a route into a project, completing a series of improvements over the course of time, or by developing major network level improvements.

The Town will approach every planned transportation improvement within the Bicycle Network as an opportunity to create safer and more accessible streets for all users. The Town recognizes that its infrastructure includes a transportation network that should provide convenient access and safe travel for all users within the Town and beyond the Town's borders. Because of its regional impact, implementation of this policy reinforces the need for collaboration among the many regional partners and stakeholders affected by this Plan.

It is important to note that implementation of this Plan will come at a cost. Full town-wide implementation of the Bicycle Network will take many years of dedicated capital improvements and a continued commitment to supporting bicycling by the Town.

Appendix A: Bicycle Network Map

(See Attached Map)